



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,994	11/12/2001	Randy B. Osborne	042390.P12472	6491
8791	7590	10/19/2004	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN			INOA, MIDYS	
12400 WILSHIRE BOULEVARD			ART UNIT	
SEVENTH FLOOR			PAPER NUMBER	
LOS ANGELES, CA 90025-1030			2188	

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/010,994	Applicant(s) OSBORNE, RANDY B.	
	Examiner Midys Inoa	Art Unit 2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-23 and 25-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 9-10, 12-13, 15-23, 25-37 is/are rejected.
- 7) ☒ Claim(s) 2,11 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) * | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-7, 9-10, 12-13, 15-23, 25-37 are rejected under 35 U.S.C. 102(e) as being anticipated by Barrall et al. (US 20020065924).

Regarding Claims 1, 3, 10, 13, and 16, Barrall discloses a method comprising receiving a write request in parts (UDP packets); receiving a read request (“form a complete NFS request” where the request can be a read or write request; a read request would be one packet while a write request can be more than one packet); and pre-empting transfer of write data with the read request by not completing the write request until all of the parts of the write request are received. Since this system waits until all packets have been received for form a complete NFS request (read or write) and a read request is one packet versus a write request being more than one packet (“this will usually be one packets, the exception being a write request”), the system can receive a write request packet and wait for the remaining write request packets before executing, while receiving the one packet for the read request (received in time after the write request) and executing the read request while it waits for the completion of the write request (see Paragraph 0148).

Regarding Claim 7, Barrall discloses an apparatus (Figure 1) comprising:

Art Unit: 2188

A memory system (storage devices to the right of #12) having an input, and output (bus #12) and a control where storage controllers are known to be present in storage devices (see #33 in Figure 3);

A memory port (#11) having a memory input 13, a memory output 14, and a processor control (604 and 606, Figure 6), wherein the memory system input is coupled to receive the memory port memory output (see connection between #14 and #12, Figure 1), the memory port memory input is coupled to receive the memory system output, and the memory system control is coupled to the memory port memory control (see Figure 6, 607 and 609), and

A processor (CPUs to the left of #10, Figure 1) having a memory output, a memory input (bus #10), and a memory control (processors within CPUs), wherein the memory port processor input is coupled to receive the memory port processor output (see connection between #13 and #10, Figure 1), the processor memory input is coupled to receive the memory port processor output, and the processor memory control is coupled to the memory port processor control (see Figure 6, PCI bus 613);

Wherein the memory port has a memory port protocol (user datagram protocol packet) allowing a processor write request received in parts (in packets) to be preempted by a processor read request by not completing the write request until all of the parts of the write request are received. Since this system waits until all packets have been received for form a complete NFS request (read or write) and a read request is one packet versus a write request being more than one packet ("this will usually be one packets, the exception being a write request"), the system can receive a write request packet and wait for the remaining write request packets before executing, while receiving the one packet for the read request (received in time after the write

Art Unit: 2188

request) and executing the read request while it waits for the completion of the write request (see Paragraph 0148).

Regarding Claims 4, 12, 15, Barrall discloses network server 11 (figure 1) being link between the requesting cpus and the receiving storage devices. Since all request (read or write) go through the network server 11, this device serves as the request's link layer control (paragraphs 63-64).

Regarding Claims 9, 17-18, since the information in the system of Barrall is being transmitted in packet format, it is known that packets include headers with payload and control information (see paragraphs 009 and 060). The headers are therefore the means for receiving link layer control data associated with a request.

Regarding claims 5 and 6, the system of Barrall works for all types of write requests and read requests. Therefore, the requests can be memory write requests, device write requests, or configuration write requests and the read requests can be memory read requests, device read requests, or configuration read requests.

Regarding Claims 19-22, 26-37, Barrall discloses a method comprising receiving a read request flit ("form a complete NFS request" where the request can be a read or write request; a read request would be one packet while a write request can be more than one packet) where a packet may have one of more flits and therefore, a single read packet can be a flit (see disclosure paragraph 0047); and dispatching an early read request from a read request flit to a memory from the request flit during the receiving. Since this system waits until all packets have been received for form a complete NFS request (read or write) and a read request is one packet versus a write request being more than one packet ("this will usually be one packets, the exception being a

Art Unit: 2188

write request”), the system can receive a write request packet and wait for the remaining write request packets before executing, while receiving the one packet for the read request (received in time after the write request) and executing the read request while it waits for the completion of the write request (see Paragraph 0148). Since the read request is completed prior to the previously arrived write request packet, it can be considered to be an early read request. Since a read request is only one packet (see paragraph 148), the read request may begin to execute while the packet is being received since upon the completion of the transmission of that packet, the system knows that the read request will be a complete NFS request. Therefore, knowing that the request being received is a read request (and knowing that read requests are only one packet) may serve as an indicator that a read request must be started. Given that the read requests are initiated as soon as received, if error checking were to take place, it would take place after the initiation of the read requests.

Regarding Claim 23, 25, Barrall discloses an apparatus comprising:

A memory system (storage devices to the right of #12) having an input, and output (bus #12) and a control where storage controllers are known to be present in storage devices (see #33 in Figure 3);

A memory port (#11) having a memory input 13, a memory output 14, and a processor control (604 and 606, Figure 6), wherein the memory system input is coupled to receive the memory port memory output (see connection between #14 and #12, Figure 1), the memory port memory input is coupled to receive the memory system output, and the memory system control is coupled to the memory port memory control (see Figure 6, 607 and 609);

Wherein the memory port has a memory port protocol (user datagram protocol packet) allowing the dispatching of an early read request from a read request flit to a memory from the request flit during the receiving. Since this system waits until all packets have been received for form a complete NFS request (read or write) and a read request is one packet versus a write request being more than one packet ("this will usually be one packets, the exception being a write request"), the system can receive a write request packet and wait for the remaining write request packets before executing, while receiving the one packet for the read request (received in time after the write request) and executing the read request while it waits for the completion of the write request (see Paragraph 0148). Since the read request is completed prior to the previously arrived write request packet, it can be considered to be an early read request. A packet may have one of more flits and therefore, a single read packet can be a flit (see disclosure paragraph 0047).

Since a read request is only one packet (see paragraph 148), the read request may begin to execute while the packet is being received since upon the completion of the transmission of that packet, the system knows that the read request will be a complete NFS request. Therefore, knowing that the request being received is a read request (and knowing that read requests are only one packet) may serve as an indicator that a read request must be started.

Allowable Subject Matter

3. Claims 2, 11, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Prior Art of Record does not teach a read request within a write packet.

Response to Arguments

4. Applicant's arguments with respect to claims 1-37 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Midys Inoa whose telephone number is (571) 272-4207. The examiner can normally be reached on M-F 7:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (571) 272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2188

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Midys Inoa

Midys Inoa
Examiner
Art Unit 2188

MI

Mano Padmanabhan
10/18/04

MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER